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# PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

Riazi 3-11-3

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Typed or printed name \_\_\_\_\_

Application Number

09/398,502

Filed

September 17, 1999

First Named Inventor

Riazi et al.

Art Unit

2616

Examiner

Duc T. Dung

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request

This request is being filed with a notice of appeal

The review is requested for the reason(s) stated on the attached sheet(s)

Note: No more than five (5) pages may be provided

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed  
(Form PTO/SB/96)

☒ attorney or agent of record  
Registration number 36,597

☐ attorney or agent acting under 37 CFR 1.34

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

*Kevin M. Mason*

Signature

Kevin M. Mason

Typed or printed name

203-255-6560

Telephone number

November 12, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450 DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P O Box 1450, Alexandria, VA 22313-1450.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**PATENT APPLICATION**

Applicant(s): Riazi et al.  
Docket No.: 3-11-3  
Serial No.: 09/398,502  
Filing Date: September 17, 1999  
Group: 2616  
Examiner: Duc T. Duong

Title: Method and Apparatus for Performing Differential Modulation over Frequency in  
an Orthogonal Frequency Division Multiplexing (OFDM) Communication  
System

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MEMORANDUM IN SUPPORT OF  
PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The present invention and prior art have been summarized in Applicants' prior responses.

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 through 22 are presently pending in the above-identified patent application. Claims 1-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sayeed (United States Patent Number 6,594,320 B1).

### ARGUMENTS

#### Independent Claims 1, 7, 13 and 18

Independent claims 1, 7, 13, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sayeed. Regarding claims 1 and 7, the Examiner acknowledges that  
5 Sayeed fails to teach storing pilot tones, but asserts that to arrange for storing pilot tones instead of spectral nulls would have been obvious to a person of ordinary skill in the art since such arrangement would (have) the same purpose of carrier acquisition, and thus it lacks any new inventive concept.

Applicants note that a tone is defined as, for example, a "*sound of distinct pitch, quality, and duration,*" and a "spectral null" is defined as, for example, a *lack of transmission*.  
10 Applicants maintain that it is *not* obvious to utilize a pilot tone instead of a spectral null. In fact, the prior art teaches away from the present invention by teaching to utilize *no signal as opposed to utilizing a tone*. Independent claims 1, 7, 13, and 18 require storing or containing said differentially encoded symbols and ***one or more pilot tones*** to produce an analog signal centered  
15 at a desired carrier frequency.

Regarding the Examiner's assertion that to arrange for storing pilot tones instead of spectral nulls would have been obvious to a person of ordinary skill in the art since such arrangement would (have) the same purpose of carrier acquisition, Applicants note that the Examiner's assertion is hypothetical and is not supported by any reference. Applicants also note  
20 that the present specification teaches that "the differential encoding is *performed with respect to consecutive bins (sub-carriers)* in the OFDM system bins in order to avoid channel phase distortion." (Page 4, lines 12-14, of the originally filed disclosure.) In one aspect of the present invention, the pilot tones are utilized for *differential detection initialization, i.e., as a phase reference*. Furthermore, Applicants note that it is *not* possible to use a pilot tone for coarse  
25 frequency carrier acquisition if the pilot tone is constructed via an IFFT (as is required by the claimed embodiment of the present invention). Thus, contrary to the Examiner's assertion, a person of ordinary skill in the art would *not* look to *utilize pilot tones, instead of adding additional spectral nulls*, for the principal purpose of carrier acquisition.

Thus, Sayeed does not disclose or suggest storing or containing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency, as required by independent claims 1, 7, 13, and 18.

Claims 6, 12, 17 and 22

5           Dependent claims 6, 12, 17, and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sayeed. Applicants could find no disclosure or suggestion in the text cited by the Examiner that the differential encoding/decoding is performed with respect to consecutive sub-carriers in an OFDM system. Claims 6, 12, 17, and 22 require wherein said differential encoding/decoding is performed with respect to consecutive sub-carriers in said  
10   OFDM system.

Thus, Sayeed does not disclose or suggest wherein said differential encoding/decoding is performed with respect to consecutive sub-carriers in said OFDM system, as required by independent claims 6, 12, 17, and 22.

Dependent Claims 2-6, 8-12, 14-17, and 19-22

15           Dependent claims 2-6, 8-12, 14-17, and 19-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sayeed.

Claims 2-6, 8-12, 14-17, and 19-22 are dependent on claims 1, 7, 13, and 18, respectively, and are therefore patentably distinguished over Sayeed because of their dependency from independent claims 1, 7, 13, and 18 for the reasons set forth above, as well as other  
20   elements these claims add in combination to their base claim.

All of the pending claims, i.e., claims 1 through 22, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at  
25   the telephone number indicated below

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



Date: November 12, 2007

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